

## ABSTRACT

A method is disclosed for analyzing a biological sample by antibody profiling for identifying forensic samples or for detecting the presence of an analyte. In an illustrative embodiment of the invention, the analyte is a drug, such as marijuana, cocaine, methamphetamine, methyltestosterone, or mesterolone. The method involves attaching antigens to the surface of a solid support in a preselected pattern to form an array wherein the locations of the antigens are known; contacting the array with the biological sample such that a portion of antibodies in the sample reacts with and binds to antigens in the array, thereby forming immune complexes; washing away antibodies that do not form immune complexes; and detecting the immune complexes, thereby forming an antibody profile. Forensic samples are identified by comparing a sample from an unknown source with a sample from a known source. Further, an assay, such as a test for illegal drug use, can be coupled to a test for identity such that the results of the assay can be positively correlated to the subject's identity.